

- 60 -

**METHOD FOR MAKING DEVICES HAVING INTERMETALLIC
STRUCTURES AND INTERMETALLIC DEVICES MADE THEREBY**

ABSTRACT OF THE DISCLOSURE

5 A method and system for making an intermetallic structure are disclosed. The structure is made from lamina blanks, which comprise multiple layers of metals which are patternable, or intermetallic lamina blanks that are patternable. Lamina blanks are patterned, stacked and registered, and processed to form an intermetallic structure. The advantages of a patterned monolithic intermetallic structure include physical characteristics, such as melting temperature,
10 thermal conductivity, and corrosion resistance. Applications are broad, and include among others, use as a microreactor, heat recycling device, and apparatus for producing superheated steam. Monolithic intermetallic structures may contain one or more catalysts within the internal features.